Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GRAHAM D. MOSS
and SCOTT CAMPBELL

Appeal No. 2003-1407
Application No. 09/733,667

ON BRIEF

Before KIMLIN, JEFFREY T. SMITH and POTEATE, ***Administrative Patent Judges***.

JEFFREY T. SMITH, ***Administrative Patent Judge.***

DECISION ON APPEAL

Applicants appeal the decision of the Primary Examiner finally rejecting claims 9, 10 and 12 to 16.[1] We have jurisdiction under 35 U.S.C. § 134.

[1] In rendering our decision, we have considered Appellants' arguments presented in the Brief, filed September 9, 2002 and the Reply Brief, filed November 25, 2002.

CITED PRIOR ART

As evidence of unpatentability, the Examiner relies on the following references:

Hartzell	1,410,914	Oct. 23, 1917
Binder	3,819,967	Jun. 25, 1974
Ito et al. (Ito)	3,864,821	Feb. 11, 1975

BACKGROUND

Appellants' invention relates to a method of manufacturing a commutator which is adapted for mounting on a shaft of an electrical motor. According to the specification, page 3, the present invention minimizes the intricate and expensive manufacturing steps. Claim 9, which is representative of the claimed invention, appears below:

> 9. A method of manufacturing a commutator adapted to be mounted on a shaft of an electric motor for cooperation with electrically conductive brushes of the motor, which comprises:
>
> (a) molding a support member from an electrically insulating material, said support member having a major outer surface portion divided into subsections of lesser area by a plurality of rib members extending upwardly from said outer surface portion;

> (b) cutting a sheet of electrically conductive material into commutator segments of predetermined shape and dimensions for attachment to said outer surface portions of said subsections; and thereafter
>
> (c) attaching said commutator segments to said outer surface portions of said subsections such that said segments form respective commutator surfaces interrupted by said rib members,
>
> wherein said support member has a generally cylindrical configuration and said major surface portion is generally cylindrical, and
>
> wherein said rib members have a heightwise dimension less than the thickness of said commutator segments such that said commutator segments are attached to said outer surface portions of said support member, the respective upper surface of each segment is substantially discontinuous with said respective upper surface of each next adjacent rib member.

The Examiner rejected claims 9, 10, 12, 13 and 16 under 35 U.S.C. § 103(a) as unpatentable over the combination of Hartzell and Ito; claims 14 and 15 under 35 U.S.C. § 103(a) as unpatentable over the combination of Hartzell and Ito, as applied to claims 9, 10, 12, 13 and 16, further combined with Binder. (Answer pp. 3-4).

Appellants have indicated (Brief, p. 4) that "[c]laims 9, 10 and 12-16 stand or fall together." We will consider the claims separately only to the extent that separate arguments are of record in this appeal. 37 CFR § 1.192 (c)(7) and (8) (2001). ***See In re McDaniel,*** 293 F.3d 1379, 1383, 63 USPQ2d 1462, 1465 (Fed. Cir. 2002) ("if the brief fails to meet either requirement, the Board is free to select a single claim

from each group of claims subject to a common ground of rejection as representative of all claims in that group and to decide the appeal of that rejection based solely on the selected representative claim").

Rather than reiterate the conflicting viewpoints advanced by the Examiner and the Appellants concerning the above-noted rejections, we refer to the Answer and the Briefs. Our review leads us to conclude that the Examiner's § 103 rejections are well founded. ***See In re Oetiker***, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); ***In re Piasecki,*** 745 F.2d 1468, 1471-1472, 223 USPQ 785, 787-788 (Fed. Cir. 1984). We affirm primarily for the reasons advanced by the Examiner and add the following primarily for emphasis.

DISCUSSION

The Examiner rejected claims 9, 10, 12, 13 and 16 under 35 U.S.C. § 103(a) as unpatentable over the combination of Hartzell and Ito. The Examiner has found, Answer page 3, that Hartzell discloses a method of manufacturing a commutator which is the same as that claimed. The Examiner asserts the formed commutator of Hartzell differs from the claimed invention by not specifying the heightwise dimension of the separating ribs/teeth. (Answer, p. 3).

Hartzell discloses a process for manufacturing a commutator that comprises molding a cylindrical support member from an electrically insulating phenolic resinous material. (Col. 1, ll. 53-58). The support member has a major outer surface portion divided into subsections of lesser area by a plurality of teeth or tongues (rib members) extending upwardly from the outer surface. (Fig. 1, Col. 1, ll. 74-80). Hartzell discloses cutting a sheet of electrically conductive material into commutator segments of predetermined shape and dimensions for subsequent attachment to the outer surface of the support member such that the segments form commutator surfaces interrupted by the rib members. (Col. 1, ll. 80–108). Hartzell includes an additional step wherein the final commutator is turned or ground to equalize the ribs/teeth with the surfaces of the conductive plates. (Col. 2, ll. 21-26). Hartzell does not disclose that the height of the ribs/teeth is lower than the conductive plates.

The Examiner asserts that Ito discloses forming a commutator wherein intervening ribs/teeth have a thickness that is less than the conductive commutator segments. (Answer, pp. 3-4). According to Ito, when the insulator ribs/teeth of a commutator project above the conductive segments undesirable contact occurs between the brush and the commutator producing noise and reduced performance. (Col. 2, ll. 13-17).

The Examiner concludes that it would have been obvious to perform the manufacturing method of Hartzell wherein the produced commutator has ribs/teeth comprising a heightwise dimension below the heightwise dimension of the conductive segment to prevent degradation in performance of the commutator. (Answer, p. 4).

Appellants have presented several arguments attacking the Hartzell reference individually. (Brief, pp. 5-6). Obviousness cannot be rebutted by attacking references individually where the rejection is based upon the teachings of a combination of references. A reference must be read, not in isolation, but for what it fairly teaches in combination with the prior art as a whole. ***In re Merck & Co.,*** 800 F.2d 1091, 1097, 231 USPQ 375, 380 (Fed. Cir. 1986). In the present case, a person of ordinary skill in the art would have recognized, as stated above, that when the insulator ribs/teeth of a commutator project above the conductive segments undesirable contact occurs between the brush and the commutator producing noise and reduced performance. As stated above, Hartzell discloses the molding of a cylindrical support, including ribs/teeth, from an electrically insulating phenolic resinous material. In light of the recognition of poor performance, a person of

ordinary skill in the art would have been motivated to mold the ribs/teeth of the cylindrical support to a height that would not exceed the conductive segments.

Appellants argue that "[o]ne would not look to Ito et al. to modify Hartzell since in Ito et al. the insulating material 3 in slits 2 is not part of the body 4 and is thus not molded as part of the body 4." (Brief, p. 6). This argument is not persuasive because Hartzell recognized the interchangeability of forming the ribs/teeth by molding or by inserting insulating bars. (See Col. 2).

Appellants argue that both Hartzell and Ito teach cutting material as a final step of making the commutator. However, in the claimed method the height of the rib and commutator segment thickness are taken into account. (Reply Brief, p. 3).

This argument is not persuasive because claim 9 includes the transitional phrase "comprises" in defining the claimed subject matter. When a claim uses "comprises" as its transitional phrase, that use creates a presumption that the recited limitations are only part of the claimed subject matter and do not exclude additional, unrecited elements. ***Moleculon Research Corp. v. CBS, Inc.,*** 793 F.2d 1261, 1271, 229 USPQ 805, 812 (Fed. Cir. 1986). The description of the heightwise dimension of the rib in claim 9 does not preclude the use of a subsequent step.

The Examiner rejected claims 14 and 15 under 35 U.S.C. § 103(a) as unpatentable over the combination of Hartzell and Ito, as applied to claims 9, 10, 12, 13 and 16, further combined with Binder.

Appellants argue that "claims 14 and 15 are allowable for the reasons advanced above with regard to claim 9 as amended, and for the additional reason that the added subject matter thereof is neither taught nor suggested by the prior art of record." (Brief, p. 7).

The Examiner has presented factual determinations regarding the suitability of using an adhesive in a commutator. These determinations seem reasonable.

Since Appellants have failed to specifically challenge the factual determinations, we presume that they are in agreement with the Examiner. Thus, for the reasons presented above regarding claim 9 and the reasons presented by the Examiner we will uphold the rejection.

Based on our consideration of the totality of the record before us, having evaluated the ***prima facie*** case of obviousness in view of Appellants' arguments, we conclude that the subject matter of claims 9, 10 and 12 to 16 would have been obvious to a person of ordinary skill in the art from the combined teachings of the cited prior art.

CONCLUSION

The rejection of claims 9, 10, 12, 13 and 16 under 35 U.S.C. § 103(a) as unpatentable over the combination of Hartzell and Ito and rejection of claims 14 and 15 under 35 U.S.C. § 103(a) as unpatentable over the combination of Hartzell and Ito, as applied to claims 9, 10, 12, 13 and 16, further combined with Binder are affirmed.

Time for taking action

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

EDWARD C. KIMLIN ***Administrative Patent Judge***	)	
JEFFREY T. SMITH ***Administrative Patent Judge***	)	**BOARD OF PATENT APPEALS AND INTERFERENCES**
LINDA R. POTEATE ***Administrative Patent Judge***	)	

JTS/kis

SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
186 WOOD AVENUE SOUTH
ISELIN, NJ 08830